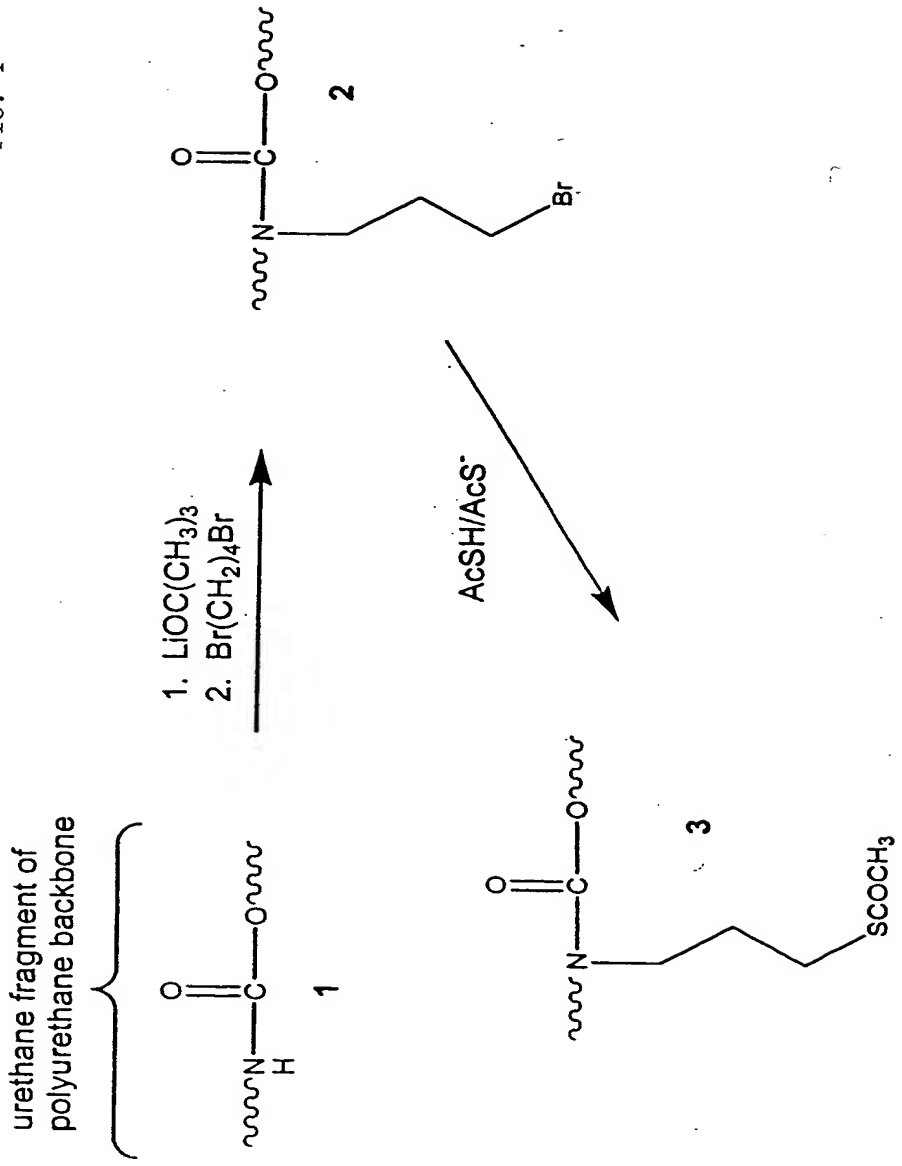
FIG. 1


urethane fragment of
polyurethane backbone
1
1. LiOC(CH3)3
2. Br(CH2)4Br
2
AcSH/AcS-
3
SCOCH3
Br

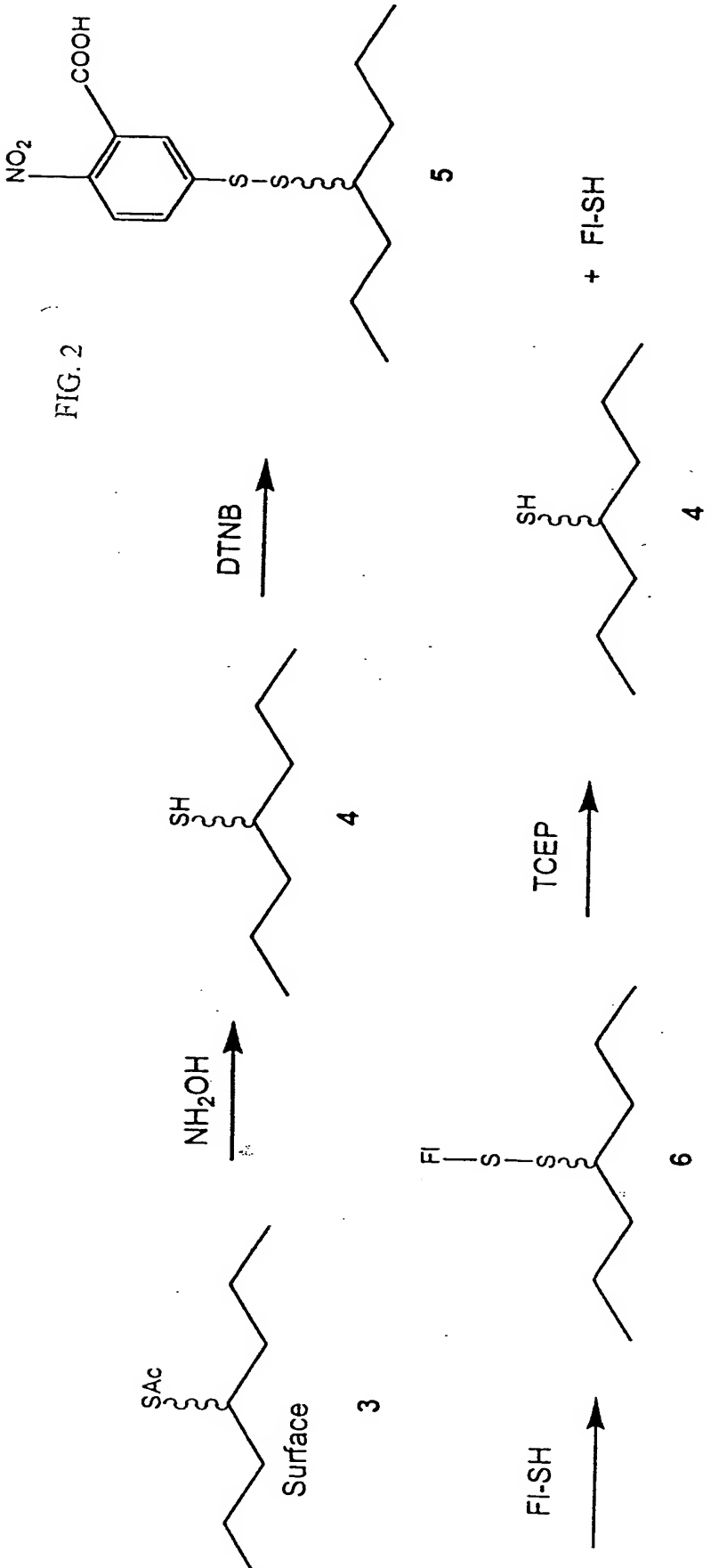
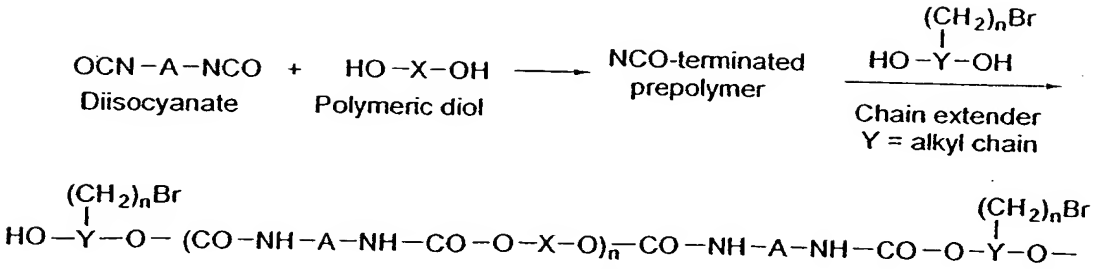

Surface
SAc
3
NH_2OH
SH
4
DTNB
NO_2
COOH
S—S
5
TCEP
SH
4
+ Fl-SH
Fl-SH
Fl
S—S
6

FIG. 2

FIG. 3



Segmented polyurethane

A = p-$C_6H_4CH_2C_6H_4$-p (polyurethanes based on MDI) or
cyclo-$C_6H_{10}CH_2C_6H_{10}$-cyclo (aliphatic polyurethanes based on HMDI)
X = residue of polytetramethyleneoxide (polyether-urethanes) or
polycarbonatediol (polycarbonate-urethanes)

FIG. 4

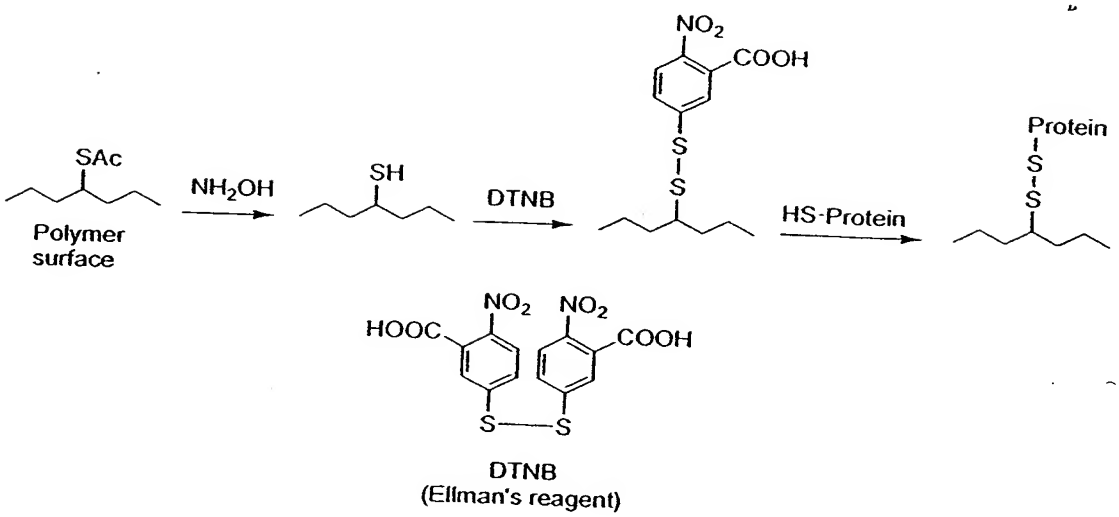
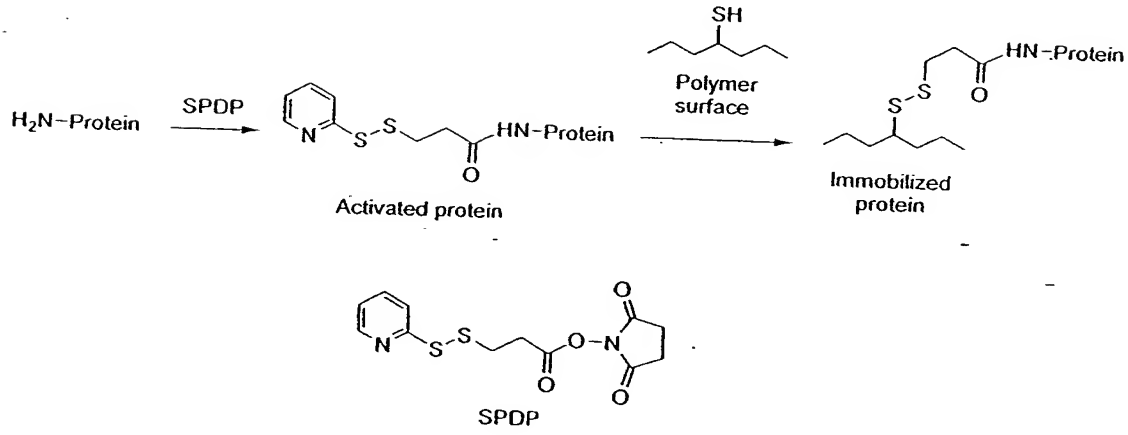

SAc
NH2OH
SH
DTNB
NO2
COOH
S
S
HS-Protein
Protein
S
S
Polymer
surface
HOOC
NO2
NO2
COOH
S
S
DTNB
(Ellman's reagent)

FIG. 5


H2N-Protein
SPDP
N
S
S
HN-Protein
O
Activated protein
SH
Polymer
surface
HN-Protein
S
S
O
Immobilized
protein
N
S
S
O
O-N
O
O
SPDP